Reference: PPI Polyethylene Design Handbook

PLASTICS-PIPE-INSTITUTE

Pipe Data

Pressure Water Flow

ref. Ch.6, eqn. 2-12, pp. 175-177

$$P_f = \frac{0.0009015L}{D_i^{4.8655}}\left(\frac{100Q}{C}\right)^{1.85}$$

Hazen-Williams Equation

Information

Date	09-09-2015
Project	Gold King Divert
Engineer Name	Canyon
Comments	

Variables

D_o	6.625	Pipe Outside Diameter, in
DR	11	Dimension Ratio

Result

Calculated for: P_f

L	2100	Length Of Line, ft
D_i	5.348	Pipe Inside Diamater, in
Q	1000	Flow Rate, gpm
C	150	Hazen-Williams Friction Factor
P_f	90.85	Pressure Loss, psi
V	14.3	Fluid Velocity, fps

Reference: PPI Polyethylene Design Handbook

PLASTICS-PIPE-INSTITUTE

Pipe Data

Pressure Water Flow

ref. Ch.6, eqn. 2-12, pp. 175-177

$$P_f = \frac{0.0009015L}{D_I^{4.8655}}\left(\frac{100Q}{C}\right)^{1.85}$$

Hazen-Williams Equation

Information

Date	09-09-2015
Project	Gold King Divert 600gpm
Engineer Name	
Comments	

Variables

D_o	6.625	Pipe Outside Diameter, in
DR	11	Dimension Ratio

Result

Calculated for: P_f

L	2100	Length Of Line, ft
D_i	5.348	Pipe Inside Diamater, in
Q	600	Flow Rate, gpm
C	150	Hazen-Williams Friction Factor
P_f	35.31	Pressure Loss, psi
V	8.6	Fluid Velocity, fps

Reference: PPI Polyethylene Design Handbook

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Water Flow

Gravity Water Flow

ref. Ch.6, eqn. 2-36, pp. 186-188
ref. Ch.6, eqn. 2-29, pp. 186-188

$$Q = 0.275\left(\frac{D_I^{8/3}\, S_H^{1/2}}{n}\right) \qquad V = \frac{1.486}{n}\left(\frac{D_I}{48}\right)^{2/3} S^{1/2}$$

ref. eqn. 2-36 (pages 186-188) ref. eqn. 2-29 (pages 186-188)

Information

Date	09-09-2015
Project	
Engineer Name	
Comments	

Variables

D_o	6.625	Pipe Outside Diameter, in
DR	11	Dimension Ratio

Result

Calculated for: Q

Q	597.61	1/2-Full or Full Pipe Flow, gpm
D_i	5.348	Pipe Inside Diamater, in
n	0.009	Manning Flow Coefficient
S_H	.05	Hydraulic Slope [decimal value for vertical drop (ft)/horizontal run(ft)]
V	8.55	Fluid Velocity, fps